

Application No.: 09/708,965

Docket No.: 60680-1378

**REMARKS**

Applicants have carefully reviewed the Office Action mailed June 4, 2003 (paper no. 14). Applicants thank Examiner Bissett for her allowance of claims 18-24 and indication of allowable subject matter with respect to dependent claims 9 and 10. In response to the Office Action, Applicants have amended claims 1, 4-6, 10 and 15. No new claims have been added and claims 3 and 9 have been canceled. By way of these amendments, no new matter has been added. Accordingly, claims 1-2, 4-8 and 10-24 remain pending in this application. Applicants respectfully request reconsideration of the present application in view of the above amendments and the following remarks.

**Double Patenting Rejection**

Claims 1-5 and 15-17 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting over claims 1-2, 5, 8-10, 33 and 23-34 of copending Application No. 09/644,634. Attached is a Terminal Disclaimer executed by an Attorney of Record. In view of the submission of the Terminal Disclaimer, the rejection is now moot.

**Allowable Subject Matter**

Claims 9 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Accordingly, the subject matter of dependent claim 9 has been added to independent claim 6 and claim 9 has been canceled. Further, claim 10 has been amended to depend from claim 6. Therefore, independent claim 6 is allowable along with any claims depending from claim 6. Rejections of dependent claims 7-8 and 11-14 are now moot and the Applicants respectfully request allowance of claims 6-14.

**Rejections of Claims 1-5**

Claims 1 and 4-5 are twice rejected under 35 U.S.C. §102(b) as being anticipated by Pellegrini et al. (U.S. Patent No. 4,197,178) and Breault et al. (U.S. Patent No. 4,233,369). The Examiner argues that the Pellegrini patent teaches improved bipolar separator plates having a heat-curable insulating coating. The Examiner further argues that the Breault patent teaches a pair of

Application No.: 09/708,965

Docket No.: 60680-1378

impervious graphite plates receiving a heat-curable adhesive. In view of the amendments to claims 1 and 4-5, the Applicants respectfully traverse the rejection.

Claims 1 and 4-5 are amended to remove the option of polymerizing or cross-linking the coating precursor in response to heat. Instead, the claims teach polymerizing or cross-linking the coating precursor in response to infrared radiation. As described in the detailed description of the present application, there is a distinction between heat-cured coatings and radiation-cured coatings. Radiation-cured coatings overcome the problem of the separator plates warping when cured at the high temperatures necessary with heat-cured coatings (see page 6, lines 26-31 and page 7, lines 1-7 of the present application). As noted by the Examiner in paragraph 22 of the current Office Action, the Pellegrini and Breault patents fail to teach coatings cured by methods other than heating. Accordingly, because the Pellegrini and Breault patents fail to disclose each limitation of the amended claim, specifically the use of infrared radiation to polymerize or cross-link the coating precursor, the rejections under 35 U.S.C. §102(b) are overcome.

Claim 2 is rejected under 35 U.S.C. §103(a) as being unpatentable over Pellegrini in view of Canfield (U.S. Patent No. 6,274,262). It is the Examiner's position that it would have been obvious to use a screen printing technique to apply the gasket layer of Pellegrini's invention and provide a patterned discontinuous gasket layer. Amended independent claim 1 is patentable and claim 2 depends from amended claim 1 to add an additional limitation. Therefore, claim 2 is also patentable. Accordingly, the Applicants respectfully request removal of the rejection under 35 U.S.C. §103(a) with respect to claim 2.

Claim 3 is rejected under 35 U.S.C. §103(a) as being unpatentable over Pellegrini in view of Ying. Claim 3 has been cancelled but the subject matter of claim 3 regarding the use of infrared radiation to polymerize or cross-link the coating precursor is added by way of amendment to independent claim 1. The Applicants respectfully traverse the rejection with respect to the subject matter of claim 3 because there is no motivation to combine the Pellegrini and Ying patents and further, the Pellegrini patent teaches away from the combination.

MPEP Section 2143 sets forth the basic requirements for the Patent and Trademark Office to establish prima facie obviousness as follows: "To establish a prima facie case of obviousness, three criteria must be met. First, there must be some suggestion or motivation,

Application No.: 09/708,965

Docket No.: 60680-1378

either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in the applicant's disclosure." *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

There is no motivation or suggestion to combine the Pellegrini and Ying patents to result in the claimed invention. The Pellegrini patent teaches gas-impermeable separator plates having a heat-curable coating. The Pellegrini patent fails to mention coatings cured by methods other than heating, such as infrared radiation as claimed in the present application. To fill the deficiencies in Pellegrini, the Examiner uses Ying. The Ying patent discloses porous separator plates having a protective coating cured by heat, UV light, visible light, infrared radiation or electron beam radiation. The Ying patent presents this list of available methods and then specifically teaches the use of UV lamps to cure the coating.

Gas-impermeable separator plates, as in Pellegrini and the present invention, tend to warp under the high temperatures necessary to cure heat-curable coatings. Meanwhile, porous separator plates, as in Ying, are made from a substantially different composition and do not tend to warp under high temperatures. Therefore, porous separator plates may withstand any variety of curing techniques including heat or infrared radiation. In contrast, to overcome the problem of warpage Pellegrini teaches adding hardeners to the gas-impermeable separator plates. The claimed invention overcomes the warpage problem associated with gas-impermeable separator plates by curing the coating precursor with infrared radiation, instead of heat. Accordingly, there is no motivation or suggestion to combine the teachings of the Pellegrini regarding gas-impermeable separator plates having hardeners and receiving heat with Ying regarding porous separator plates receiving infrared radiation.

Further, the Pellegrini patent, in fact, teaches away from using infrared radiation to polymerize or cross-link the coating precursor applied to gas-impermeable plates. The Pellegrini patent teaches adding aromatic amines to the separator plates to prevent the separator plates from warping under the high temperatures necessary to cure the coating (see column 4, lines 59-62 of

Application No.: 09/708,965

Docket No.: 60680-1378

the Pellegri patent). Aromatic amines are hardeners and permit the separator plates to withstand higher temperatures. Instead of adding hardeners, the coating of the present invention is subjected to infrared radiation instead of heat to polymerize or cross-link the coating. Teaching the use of aromatic amines by the Pellegri patent teaches away from using infrared radiation as in the present application. For at least these reasons, the rejection under 35 U.S.C. §103(a) of the subject matter of claim 3 is overcome.

In view of these amendments and arguments, the Applicants respectfully request that claims 1-2 and 4-5 be allowed.

#### **Rejections of Claims 15-17**

Claims 15-16 are rejected under 35 U.S.C. §103(a) as being unpatentable over Pellegri et al. in view of Siebert (U.S. Patent No. 4,025,578), as evidenced by Stucke (U.S. Patent No. 4,510,007). The Examiner argues that it would be obvious to use the epoxy coatings of Siebert's invention as gaskets in Pellegri's invention, since the epoxy compositions of Siebert's invention are castable and hence more easily applied. In view of the amendment to independent claim 15, the Applicants respectfully traverse the rejection.

Claim 15 is amended to include the limitation of the solid coating being polymerized or cross-linked in response to infrared radiation. For similar reasons as given above with respect to the §103(a) rejection of the subject matter of claim 3, independent claim 15 is also patentable.

As discussed above, the Pellegri patent teaches away from using infrared radiation to polymerize or cross-link the coating precursor adhered to gas-impermeable separator plates by teaching the use of hardeners. Further, in view of the amendment to claim 15, Pellegri, Siebert and Stucke fail to teach each limitation of the claim. Specifically, the cited patents fail to teach adhering a solid coating polymerized or cross-linked in response to infrared radiation to gas-impermeable separator plates. For at least these reasons the rejection of claim 15 under 35 U.S.C. §103(a) is overcome. Further, claims 16 and 17 depend from amended claim 15 and add additional limitations to the patentable subject matter of claim 15. Accordingly, claims 15-17 are patentable and the Applicants respectfully request removal of the rejections.

Application No.: 09/708,965

Docket No.: 60680-1378

**CONCLUSION**

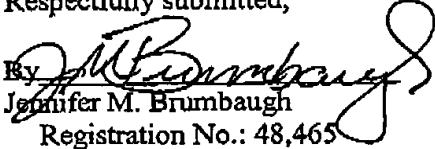
In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. According, the Examiner is respectfully requested to pass this application to issue.

It is believed that any additional fees due with respect to this paper have already been identified in any transmittal accompanying this paper. However, if any additional fees are required in connection with the filing of this paper that are not identified in any accompanying transmittal, permission is given to charge account number 18-0013 in the name of Rader, Fishman and Grauer PLLC. If the Examiner has any question or comments, he is kindly urged to call the undersigned to facilitate prosecution.

Dated: Aug. 4, 2003

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Respectfully submitted,

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